

# **CHILDHOOD LEAD POISONING IN NEW JERSEY**

## **ANNUAL REPORT**

**FISCAL YEAR 2001  
(July 1, 2000 – June 30, 2001)**

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## Chapter One

### EXECUTIVE SUMMARY

This Annual Report on Childhood Lead Poisoning in New Jersey is submitted in compliance with Public Law 1995, Chapter 328, which requires the Commissioner of Health and Senior Services to issue an annual report to the Governor and the Legislature that includes a summary of the lead poisoning testing and abatement program activities in the State during the preceding fiscal year.

The New Jersey Department of Health and Senior Services (DHSS) maintains a Childhood Lead Poisoning Surveillance System (CLPSS). Included in this system are the reporting by laboratories of the results of blood lead tests performed on children and notification of local health departments of those children with elevated blood lead. The local health departments, as required by Chapter XIII of the New Jersey State Sanitary Code, investigate these cases and order the abatement of any lead hazards identified. The CLPSS also includes a database that tracks the blood lead levels of individual children, and the actions taken by the local health departments in response to children reported with elevated blood lead.

In State Fiscal Year (FY) 2001, there was an 8.5% increase in the number of children tested for lead poisoning, with an 11% increase in the number of one and two-year old children tested, as compared with FY 2000. At the same time, there were significant decreases in the number and percentage of children tested who had elevated blood lead levels. These results seem to suggest that childhood lead poisoning prevention activities in New Jersey are working.

While we are pleased with the positive trends shown in this report, we are also aware that we are not yet reaching all the children at risk of lead poisoning. There is also more that can be done to identify and eliminate lead hazards in the environment before children are exposed to them. To achieve these ends, the DHSS is working collaboratively with public and private sector partners, including the New Jersey Interagency Task Force on Prevention of Lead Poisoning, to increase the percentage of children screened, to reduce the number of children with elevated blood lead, and to eliminate lead hazards in the environment. Our goal is nothing less than the total elimination of childhood lead poisoning in New Jersey by the end of this decade.

### REPORT HIGHLIGHTS

#### **Children tested for lead poisoning**

- 149,233 children, ages birth through 16 years of age, were tested for lead poisoning during FY 2001 (see Table 2, page 12).
- The number of children tested increased by 11,697 (8.5%) over the 137,536 children tested in FY 2000 (see Table 6, page 16).
- 75,147 one and two-year olds, the ages at which all children are required to be tested under the State law, were tested during FY 2001 (see Table 4, page 14).
- The number of one and two-year olds tested increased by 7,553 (11.2%) over the 67,594 one and two-year-olds tested in FY 2000.
- 34% (75,147) of all of one and two-year-old children in New Jersey were tested in FY 2001, a slight increase over the 30% (67,594) of all one and two-year-olds tested in FY 2000.

#### **Children with elevated blood test results**

- 5,616 children (3.8% of all children tested in FY 2001) had blood lead test results at or above 10 micrograms per deciliter (ug/dL), the level that the U.S. Centers for Disease Control and Prevention (CDC) has stated may cause health and/or development problems in children (see Table 3, page 13).
- This number is a decrease of 1,231 children, or 18%, from the 6,847 children found to have blood lead levels  $\geq 10$  ug/dL in FY 2000 (see Table 6, page 16).
- 947 children (0.6% of all children tested) had blood lead test results of 20 ug/dL or greater, the level at which environmental investigation and lead hazard abatement is required under State regulations.
- This number is a decrease of 362 children, or 28%, from the 1,309 children found to have blood lead levels  $\geq 20$  ug/dL in FY 2000.
- The reported number of children with blood lead levels  $\geq 20$  ug/dL in FY 2001 represents a continuation of a long term trend in reduction in the number of children with blood lead results above this level that has been observed every year since the reporting level was lowered to 20 ug/dL in FY 1994 (see Figure 1, page 17).

### **Results by county**

- The number and percentage of children with elevated blood lead results was highest in Essex County. In Essex there were 2,271 children with blood lead test results  $\geq 10$  ug/dL, which was 8.7% of all children from that county tested. Forty percent of all children with elevated test results resided in Essex County (see Table 3, page 13).
- The number of children with elevated test results was also high in the urban counties of Passaic (634 children), Union (426 children), Mercer (367 children) and Hudson (313 children).
- Elevated test results were not limited to urban areas. High rates of children with elevated test results were found in rural Cumberland (6.4%) and Salem (4%) counties in South Jersey.
- **Every** county in New Jersey had children with elevated blood test results.

### **Environmental Investigations**

- 916 notices of children with blood lead test results  $\geq 20$  ug/dL were sent to local health departments in FY 2001 (Table 7, page 21).
- 452 inspections were completed by June 30, 2001, which is 62% of all cases reported in FY 2001 where an inspection was required.
- Lead hazards were found in 354 properties, which was 78% of the properties inspected.
- 99 hazard abatements were completed by June 30, 2001, which is 28% of those properties where a hazard was found.
- A total of 569 inspections were completed during FY 2001, including those where the notification was sent to the local health department prior to the beginning of the Fiscal Year (see Table 8, page 22).
- Lead abatement was completed on a total of 383 properties during FY 2001, including those where the initial notification and/or inspection occurred prior to the beginning of the Fiscal Year. The difference between this number, and the 99 abatements completed for cases initiated within FY 2001, reflects the amount of time required to complete abatements.
- While 73 of the 114 local health departments in New Jersey had at least one case of a child with elevated blood lead in FY 2001, 79% of all cases were within the jurisdiction of only 13 health departments (see Table 10, page 24).
- There were significant differences among local health departments in the percentage of inspections and abatements completed within the Fiscal Year (see Appendix 2). These

differences reflect the resources available to local health departments for investigation and enforcement of these cases. The numbers shown reflect actions taken on or before June 30, 2001, so the reported numbers also reflect the timing of the report, as a local health department may not have had sufficient time to complete an investigation for cases reported to them late in the Fiscal Year.

#### **DHSS activities to reduce lead poisoning during FY 2001**

- Collaboration with the Division of Medical Assistance and Health Services (DMAHS) in the New Jersey Department of Human Services to increase lead screening rates of children enrolled in the Medicaid program.
- Pilot studies in Newark and Trenton, in collaboration with DMAHS and the Peer Review Organization of New Jersey aimed at identifying physician lead screening practices and baseline screening rates, and evaluating interventions to improve lead screening practices. The lessons learned from these pilot studies will be applied statewide.
- Convened a meeting of the New Jersey Physicians Lead Advisory Committee in June 2000 to receive recommendations from practicing physicians on improving screening rates. These recommendations were incorporated into the Department's action plan for FY 2002.
- Collaborated with DMAHS in matching records of children enrolled in Medicaid with the laboratory reports of blood lead tests of children during FY 2000 and FY 2001. This process enabled DMAHS to determine how many of the enrolled children had definitely received a blood lead test, and to target children for whom no test was reported.
- Provided \$2,035,846 in grant funds to 13 local health departments to support lead testing, case management for children with elevated test results, and public education.
- Provided \$65,229 to support the Newark Partnership for Lead Safe Children. In addition to grant funds, the Partnership received a substantial donation from Episcopal Community Development Services, which was used to create "Leadie Eddie", a van used for lead poisoning prevention education programs at child care centers and community sites in Newark.
- Collaborated on a public education campaign, "Lead Free is Best for Me", in Newark, with the Newark Department of Health and Human Services (DHHS), the Gateway Maternal and Child Health Consortium and the Newark Partnership for Lead Safe Children.

#### **Action Plan for FY 2002**

- Increase screening rates statewide of one and two-year olds for lead poisoning, through continued collaboration with the DMAHS and the Physician Lead Advisory Committee. Particular emphasis will be placed on children enrolled in Medicaid, whom studies have shown to be the children at highest risk of lead poisoning. DHSS and DMAHS staff will review the results of the initiatives undertaken in FY 2001 and use these as the basis for additional activities in FY 2002.
- Conduct a joint pilot project with the Department of Human Services, to make the operators and staff of licensed child care centers and family child care homes aware of the dangers of lead poisoning, and to empower them to educate the parents who use these centers. Included in this initiative will be a pilot project to determine the feasibility of large scale screening of children through child care centers.
- Improve the statewide surveillance system for childhood lead poisoning. Planned enhancements include electronic reporting by laboratories of all blood lead tests, more timely

reporting of blood lead test results to local health departments, and mapping of test results to identify the areas with the lowest screening rates and highest rates of elevated blood lead test results. This information will be shared with local health departments, physicians, and community groups involved in lead poisoning prevention to help them better target their work.

- Increase the percentage of children with elevated blood lead who receive proper follow-up care, including environmental investigations, case management, and medical treatment. Grants to local health departments will be increased by \$215,000, with an emphasis on increased support for staff performing lead inspections and case management.
- A new protocol will be implemented for closer monitoring of local health department's timeliness in performing investigations and enforcing abatement orders.
- Educate the public and health care professionals about lead screening and prevention activities. Acting Governor Donald DiFrancesco's "Kids Needs" initiative includes \$400,000 for lead poisoning awareness education.
- Strengthen existing and develop new collaborations to increase screening rates and to outreach to target populations, including the New Jersey Interagency Task Force on the Prevention of Lead Poisoning, the New Jersey Physician Lead Advisory Committee, the Newark Partnership for Lead Safe Children, and the South Jersey Lead Consortium.

## **Chapter Two**

### **WHY IS LEAD POISONING IN CHILDREN A PRIORITY FOR NEW JERSEY?**

Lead is a heavy metal that has been widely used in industrial processes and consumer products. When absorbed into the human body, lead affects the blood, kidneys and nervous system. Lead's effects on the nervous system are particularly serious and can cause learning disabilities, hyperactivity, decreased hearing, mental retardation and possible death. Because their neurological system and organs are still developing, lead is particularly hazardous to children between six months and six years of age. Children who have suffered from the adverse effects of lead exposure for an extended period of time are frequently in need of special health and educational services in order to assist them to develop to their potential as productive members of society.

The primary method for lead to enter the body is the ingestion of lead containing substances. Lead was removed from gasoline in the United States in the early 1980's. This action is credited with reducing the level of lead in the air, and thereby the amount of lead inhaled by children. However, significant amounts of lead remain in the environment, where it poses a threat to children. Some common lead containing substances that are ingested or inhaled by children include:

- lead-based paint;
- dust and soil in which children play;
- tap water;
- food stored in lead soldered cans or improperly glazed pottery; and
- traditional folk remedies and cosmetics containing lead.

Because lead-based paint and other lead-containing substances are present throughout the environment in New Jersey, all children in the State are at risk. Some children, however, are at particularly high risk due to exposure to high dose sources of lead in their immediate environment. These potential high dose sources include:

- leaded paint that is peeling, chipped, or otherwise in a deteriorated condition;
- lead-contaminated dust created during removal or disturbance of leaded paint in the process of home renovation; and
- lead-contaminated dust brought into the home by adults who work in an occupation that involves lead or materials containing lead, or who engage in a hobby where lead is used.

Today, the primary lead hazard to children comes from lead-based paint. In recognition of the danger that lead-based paint presents to children, such paint was banned for residential use in New Jersey in 1971 and nationwide in 1978. These bans have effectively reduced the risk of lead exposure for children who live in houses built after 1978, but any house built before 1978 still may contain leaded paint. The highest risk for children is found in houses built before 1950, when paints contained a very high percentage of lead. More than 35% of the housing in New Jersey was built before 1950. Every county in the State has more than 10,000 housing units built before 1950. (See Table 1)

**Table 1**

**HOUSING BUILT BEFORE 1950 IN NEW JERSEY**

<b>County</b>	<b>Total Housing Units</b>	<b># of Units Built Pre-1950</b>	<b>% of Units Built Pre-1950</b>
Atlantic	106,877	30,044	28.1%
Bergen	324,817	134,831	41.5%
Burlington	143,236	28,113	19.6%
Camden	190,145	62,907	33.1%
Cape May	85,537	24,393	28.5%
Cumberland	50,294	18,412	36.6%
Essex	298,710	155,820	52.2%
Gloucester	82,459	21,664	26.3%
Hudson	229,682	138,129	60.1%
Hunterdon	39,987	12,406	31.0%
Mercer	123,666	47,093	38.1%
Middlesex	250,174	55,677	22.3%
Monmouth	218,408	60,810	27.8%
Morris	155,745	41,622	26.7%
Ocean	219,863	26,409	12.0%
Passaic	162,512	74,715	46.0%
Salem	25,349	10,220	40.3%
Somerset	92,653	21,706	23.4%
Sussex	51,574	13,274	25.7%
Union	187,033	89,148	47.7%
Warren	36,589	14,688	40.1%
<b>Statewide</b>	<b>3,075,310</b>	<b>1,082,081</b>	<b>35.2%</b>
<i>Source: 1990 U.S. Census of Housing and Population (N.B. 2000 Census data not yet available)</i>			

## Chapter Three

### TESTING CHILDREN FOR LEAD POISONING

State regulation requires clinical laboratories licensed by the DHSS to report the results of all blood lead tests. The methodology used for blood lead reporting, and the manner in which the DHSS maintains and analyses those reports, is described in Appendix 1.

Children may receive a blood lead test either as an initial screening for elevated blood lead, or as a follow-up test due to a previously elevated screening test. If the first screening test is done using a capillary blood sample and has an elevated result, a confirmatory test is done on a venous sample to more accurately determine the blood lead level. The data received by the DHSS from the clinical laboratories does not identify the reason for the test, so the database is not able to distinguish between screening tests and confirmatory or follow-up tests. This chapter, therefore, includes the data on all children with at least one blood lead test result reported in FY 2001. To make this distinction clear, the term “tested” is used instead of “screened”. However, this report considers any child who has had at least one blood lead test during the Fiscal Year to have been screened in compliance with the statute.

Current State regulations, in accordance with federal CDC Guidelines, require health care providers to do a blood lead test on all one and two-year old children. This is the age at which lead poisoning is most damaging to the developing nervous system. It is recommended that children be tested at or about 12 and 24 months of age. Older children, up until six years of age, are to be tested only if they have never been previously tested, or are assessed to be at high risk. While testing of children six years of age and older is not required, health care providers may opt to test these children due to previously elevated test results or other risk factors.

#### Blood lead testing

During this year, 149,233 children in New Jersey, ages birth through 16 years of age, were tested for lead poisoning. The number of children tested increased by 11,697 (8.5%) over the 137,536 children tested in FY 2000 (Table 6).

Of the children with reported blood lead tests, 75,147 were one or two-years old (Table 4). This represents an increase of 7,553 (11.2%) over the 67,594 one and two-year olds tested in FY 2000. The number of children tested is 34% of the 222,837 of one and two-year-old children in New Jersey according to the 2000 U.S. Census. This percentage is a slight increase over the 30% of all one and two-year olds tested in FY 2000.

Table 4 shows the number and percentage of one and two-year-old children tested in each county. The percentage of one and two-year-old children tested ranged from a low of 17% in Cape May County to a high of 55% in Hunterdon County.

#### Blood lead test results

Table 2 shows the data on the number of children tested, by county of residence and by blood lead test result. More than 96% of these children had blood lead test results less than 10 micrograms per deciliter (ug/dL), which is the "level of concern" established by CDC. On the other hand, 5,616 (3.8%) of the children tested had results  $\geq 10$  ug/dL, of which 947 (0.6%) had results  $\geq 20$  ug/dL (Table 3).

While the number of children tested increased, the number of children with elevated blood lead test results in FY 2001 decreased from the number reported in FY 2000. The number of children with blood lead levels of 10 ug/dL or greater decreased by 1,231, from 6,847 to 5,616 (18%), and the number of children with blood lead levels of 20 ug/dL or greater decreased by 362, from 1,309 to 947 (27.7%). (Table 6)

**Every** county had children with blood lead levels  $\geq 20$  ug/dL, documenting that lead poisoning continues to be a statewide problem. However, Table 3 shows that the problem is particularly serious in some counties. While the highest numbers of children with elevated results are in urban counties, some rural counties in Southern New Jersey have among the highest rates of elevated blood lead.

Essex County had the highest number and percentage of children with elevated test results. There were 2,271 children from Essex County with blood lead levels of 10 ug/dL or more, and 443 children with blood lead levels of 20 ug/dL or more. These numbers represent 40% of all children in New Jersey with blood lead levels of 10 ug/dL or more, and 47% of all children with blood lead levels of 20 ug/dL or more. Almost 9% of children tested in Essex County had blood lead levels of 10 ug/dL or more, and 1.7% had blood lead levels of 20 ug/dL or more. These percentages were both significantly higher than in any other county.

There were four other counties in which the percentage of children with blood lead levels of 10 ug/dL or more exceeded the statewide average of 3.8%. These were Cumberland (6.4%), Mercer (5.7%), Passaic (5.3%) and Salem (4%). Other than Essex, only in Passaic County (1.3%) did more than one percent of children tested have blood lead levels of 20 ug/dL or greater.

In 16 of the 21 counties, less than 4 % of children tested had blood lead levels  $\geq 10$  ug/dL. The lowest percentage was in Somerset County – 0.7%.

#### Blood lead testing by age

Of the children tested, 2% were less than one year old, 50% were one-two years old, 30% were three-five years old, and 15% were six years of age or older(through age 16). The percentage of children tested was highest for the one and two-year olds at 34%. The percentage of all children tested was 13% for three to five-year olds, and 2% for children six years of age or older. While the percentage of one and two-year olds tested should be much greater, the lower percentages for older children are appropriate. Children in the three to five-year age group are to be tested only if they have never been previously tested, or are assessed to be at high risk. Testing of children six years of age and older is not required, but health care providers may opt to test these children due to previously elevated test results or other risk factors.

There were differences in blood lead levels by age. Slightly more than 1% of children under one year of age, 2.9% of children one-two years of age, 5.6% of children three-five years of age, and 3.3% of children six years or older, had blood lead levels of 10 ug/dL or more (Table 5).

The observation that the percentage of children with elevated blood lead is highest in the three to five year old age group is not consistent with national research data on lead poisoning in children, which has found that blood lead levels were highest in children between 18 and 24 months of age. These results may be explained by the following reasons.

- While all one and two-year old children should be tested, regardless of risk, children in the three to five year old age group are tested only if the child was not tested at an earlier age, is determined by the risk assessment to be at high risk, or because of a previously elevated test result. Therefore the group of children being tested between three and five years of age includes more high risk children and fewer low risk children than the children tested at one and two years of age.
- Routine screening is not recommended for children six years of age and older. Most of the blood lead tests for children in this age group are not screening tests, but follow-up tests for children who previously had elevated test results at a young age.

#### Trends in testing and results

These results represent the continuation of a long-term trend of decreasing numbers of children identified with elevated blood lead. The DHSS established the reporting level for elevated blood lead at 20 ug/dL in 1993. State FY 1994 was the first full State Fiscal Year that this reporting level was in effect. Every year since then, the number of children reported with blood lead at this level or greater has declined (Figure 1). In the absence of reporting of all test results, the DHSS was not able to determine if the reduction between FY 1994 and FY 2000 was due to a real decline in elevated blood lead among children, or due to a reduction in the number of children tested for blood lead. The fact that the number of children with elevated blood lead continued to decline from FY 2000 to FY 2001, even as the number of children tested increased, may indicate that the decrease in reported children with elevated blood lead reflects a real decline in elevated blood lead in children in New Jersey throughout this period. This finding would be consistent with reductions in children with elevated blood lead reported to CDC by other states, as well as the reduction in the average blood lead level in children in national surveys.

[Reference: U.S. Centers for Disease Control and Prevention, "Blood Lead Levels in Young Children – United States and Selected States, 1996-1999," *Morbidity and Mortality Weekly Report*, December 22, 2000, 49(50):1133-7.]

While the reduction in the number of children with elevated blood lead test results is a positive sign, it is tempered by the fact that almost two-thirds of the children who should have been tested according to the current State law, one and two-year olds, were not tested for lead poisoning in FY 2001. It is likely that some of the children not tested were at high risk and that there are more children with elevated blood lead than those reported to the DHSS. A plan to increase screening in order to find these children is described in Chapter 5.

**Table 2**

**CHILDREN WITH BLOOD TEST RESULTS REPORTED IN FY 2001  
BY BLOOD LEAD LEVEL  
AND COUNTY OF RESIDENCE**

<b>County</b>	<b>Children Tested</b>	<b>Less than &lt;10 ug/dL</b>	<b>10-14 ug/dL</b>	<b>15-19 ug/dL</b>	<b>20-44 ug/dL</b>	<b>&gt;=45 ug/dL</b>
Atlantic	4,533	4,469	41	9	12	2
Bergen	15,229	15,041	116	46	24	2
Burlington	3,908	3,863	29	12	4	0
Camden	7,724	7,505	149	42	26	2
Cape May	679	665	8	0	6	0
Cumberland	3,675	3,439	155	55	24	2
Essex	26,238	23,967	1,265	563	417	26
Gloucester	1,986	1,946	27	8	5	0
Hudson	12,749	12,436	208	66	37	2
Hunterdon	2,405	2,363	24	13	4	1
Mercer	6,394	6,027	244	82	37	4
Middlesex	11,540	11,292	158	61	29	0
Monmouth	7,325	7,182	100	30	13	0
Morris	6,251	6,181	45	11	12	2
Ocean	4,433	4,372	34	19	7	1
Passaic	11,794	11,160	343	139	143	9
Salem	801	769	21	5	6	0
Somerset	3,217	3,193	16	4	4	0
Sussex	1,579	1,561	15	0	3	0
Union	13,579	13,153	257	92	72	5
Warren	1,025	1,010	7	4	4	0
ZipUnknown	2,169	2,023	99	47	0	0
<b>TOTAL</b>	<b>149,233</b>	<b>143,617</b>	<b>3,361</b>	<b>1,308</b>	<b>889</b>	<b>58</b>

**Table 3**

**CHILDREN WITH BLOOD TEST RESULTS REPORTED IN FY 2001  
NUMBER AND PERCENT OF CHILDREN WITH ELEVATED BLOOD LEAD  
BY COUNTY OF RESIDENCE**

<b>County</b>	<b>Children Tested</b>	<b>Less than 10 ug/dL</b>	<b>10 ug/dL or More</b>	<b>20 ug/dL or More</b>	<b>Percent &gt;=10 ug/dL</b>	<b>Percent &gt;=20 ug/dL</b>
Atlantic	4,533	4,469	64	14	1.4%	0.3%
Bergen	15,229	15,041	188	26	1.2%	0.2%
Burlington	3,908	3,863	45	4	1.2%	0.1%
Camden	7,724	7,505	219	28	2.8%	0.4%
Cape May	679	665	14	6	2.1%	0.9%
Cumberland	3,675	3,439	236	26	6.4%	0.7%
Essex	26,238	23,967	2,271	443	8.7%	1.7%
Gloucester	1,986	1,946	40	5	2.0%	0.3%
Hudson	12,749	12,436	313	39	2.5%	0.3%
Hunterdon	2,405	2,363	42	5	1.7%	0.2%
Mercer	6,394	6,027	367	41	5.7%	0.6%
Middlesex	11,540	11,292	248	29	2.1%	0.3%
Monmouth	7,325	7,182	143	13	2.0%	0.2%
Morris	6,251	6,181	70	14	1.1%	0.2%
Ocean	4,433	4,372	61	8	1.4%	0.2%
Passaic	11,794	11,160	634	152	5.4%	1.3%
Salem	801	769	32	6	4.0%	0.7%
Somerset	3,217	3,193	24	4	0.7%	0.1%
Sussex	1,579	1,561	18	3	1.1%	0.2%
Union	13,579	13,153	426	77	3.1%	0.6%
Warren	1,025	1,010	15	4	1.5%	0.4%
ZipUnknown	2,169	2,023	146	0	6.7%	0.0%
<b>TOTAL</b>	<b>149,233</b>	<b>143,617</b>	<b>5,616</b>	<b>947</b>	<b>3.8%</b>	<b>0.6%</b>

**Table 4**

**CHILDREN ONE AND TWO YEARS OF AGE  
WITH BLOOD TEST RESULTS REPORTED IN FY 2001  
BY COUNTY OF RESIDENCE**

<b>County</b>	<b>Number of Children*</b>	<b>Children Tested</b>	<b>Percent Tested</b>	<b>Percent &lt;10 ug/dL</b>	<b>Percent ≥10 ug/dL</b>	<b>Percent ≥20 ug/dL</b>
Atlantic	6,403	2,291	35.8%	98.4%	1.6%	0.3%
Bergen	21,968	9,705	44.2%	98.7%	1.3%	0.2%
Burlington	10,728	2,463	23.0%	99.0%	1.0%	0.2%
Camden	13,663	3,824	28.0%	97.4%	2.6%	0.4%
Cape May	2,103	360	17.1%	98.1%	1.9%	0.3%
Cumberland	3,639	1,565	43.0%	93.7%	6.3%	1.0%
Essex	22,734	9,351	41.1%	93.0%	7.0%	1.7%
Gloucester	6,666	1,283	19.2%	19.2%	1.6%	0.2%
Hudson	15,205	4,747	31.2%	97.5%	2.5%	0.4%
Hunterdon	3,121	1,700	54.5%	98.4%	1.6%	0.2%
Mercer	8,810	3,036	34.5%	94.8%	5.2%	0.4%
Middlesex	19,683	6,342	32.2%	98.0%	2.0%	0.3%
Monmouth	16,744	4,109	24.5%	98.5%	1.5%	0.2%
Morris	12,987	4,402	33.9%	98.9%	1.1%	0.2%
Ocean	12,765	2,570	20.1%	98.8%	1.2%	0.2%
Passaic	14,232	6,033	42.4%	95.8%	4.2%	1.0%
Salem	1,540	400	26.0%	96.5%	3.5%	0.5%
Somerset	8,843	2,177	24.6%	99.3%	0.7%	0.2%
Sussex	3,876	1,005	25.9%	99.1%	0.9%	0.2%
Union	14,402	6,010	41.7%	97.2%	2.8%	0.5%
Warren	2,725	778	28.6%	99.0%	1.0%	0.1%
ZipUnknown		996		95.5%	4.5%	0.0%
<b>TOTAL</b>	<b>222,837</b>	<b>75,147</b>	<b>33.7%</b>	<b>97.1%</b>	<b>2.9%</b>	<b>0.5%</b>

\* U.S. Census 2000

**Table 5**

**CHILDREN WITH BLOOD LEAD TEST RESULTS REPORTED IN FY 2001  
BY AGE AT TIME OF TEST**

<b>Age Group</b>	<b>BLOOD LEAD TEST RESULTS</b>					
	<b>Number of Children*</b>	<b>Children Tested</b>	<b>Percent Tested</b>	<b>Percent &lt;=10 ug/dL</b>	<b>Percent &gt;=10 ug/dL</b>	<b>Percent &gt;=20 ug/dL</b>
<1 Year	110,298	3,619	3%	99%	1.3%	0.1%
1-2 Years	222,837	75,147	34%	97%	2.9%	0.5%
3-5 Years	348,747	44,304	13%	94%	5.6%	0.9%
6 16 Years	1,296,037	22,107	2%	97%	3.3%	0.5%
Unknown	0	4,056		95%	5.3%	0.1%
<b>TOTAL</b>	<b>1,977,919</b>	<b>149,233</b>		<b>96%</b>	<b>3.8%</b>	<b>0.6%</b>

\*2000 U.S. Census

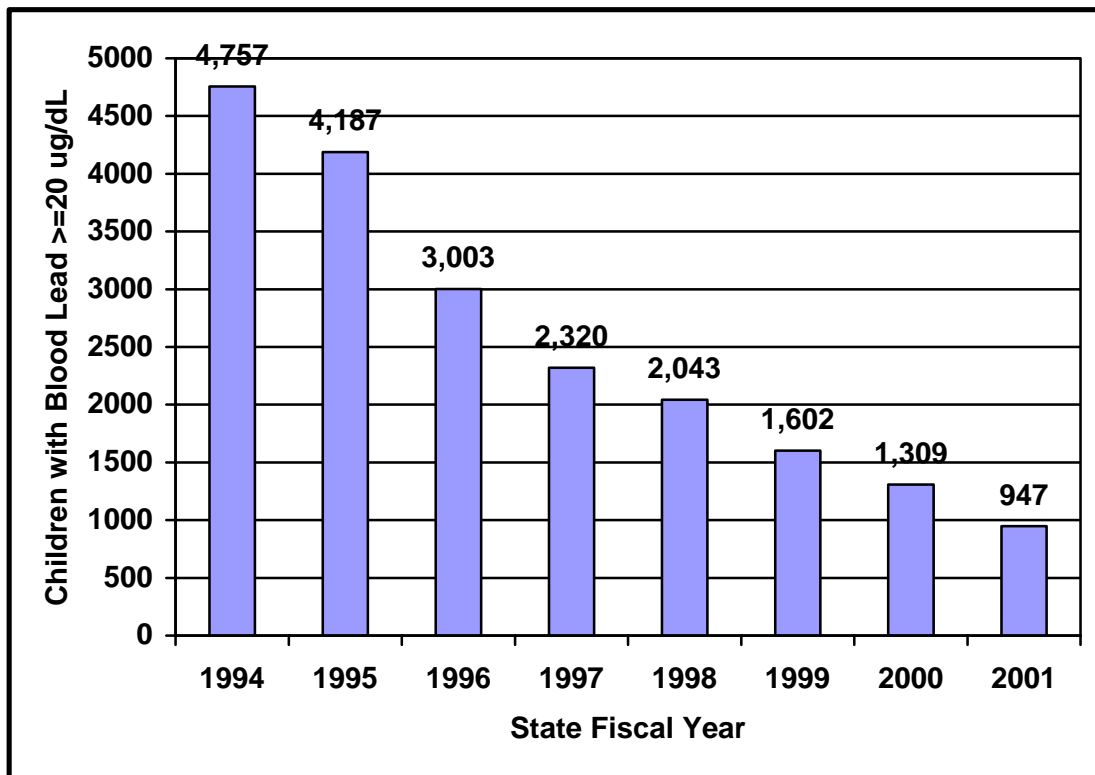
**Table 6**

**CHANGES IN CHILDREN TESTED AND BLOOD LEAD LEVELS  
FY 2000 - 2001**

	<b>FY 2000</b>	<b>FY 2001</b>	<b>Change</b>	<b>Percent Change</b>
<b>ALL CHILDREN</b>				
Number of Children Tested	137,536	149,233	11,697	8.5%
Number of Children with Results $\geq 10$ ug/dL	6,847	5,616	-1,231	-18.0%
Number of Children with Results $\geq 20$ ug/dL	1,309	947	-362	-27.7%
<b>ONE AND TWO YEAR OLDS</b>				
Number of Children in NJ (2000 U.S. Census)	222,837	222,837		
Number of Children Tested	67,594	75,147	7,553	11.2%
Percent of Children Tested	30%	34%	4%	13.0%
Number of Children with Results $\geq 10$ ug/dL	2,501	2,179	-322	-12.9%
Number of Children with Results $\geq 20$ ug/dL	541	395	-146	-27.0%

**Figure 1**

**CHILDREN WITH BLOOD LEAD  $\geq 20$  ug/dL  
BY STATE FISCAL YEAR**



## Chapter Four

# ENVIRONMENTAL INVESTIGATIONS BY LOCAL HEALTH DEPARTMENTS

New Jersey law (N.J.S.A. 24:14A) requires local boards of health to investigate all reported cases of lead poisoning within their jurisdiction and to order the abatement of all lead paint hazards identified in the course of the investigation. The procedures for conducting these investigations are specified in Chapter XIII of the New Jersey State Sanitary Code (N.J.A.C. 8:51). The DHSS maintains a system for notifying each local health department of all children with elevated blood lead reported in its jurisdiction. This system is described in Appendix 1. This chapter presents the data on children with elevated blood lead reported to local health departments, and local health department actions in response.

There were 916 notices of children with elevated blood lead sent to local health departments during FY 2001. This represents all children with a reported blood lead level  $\geq 20$  ug/dL, for whom a notice had not been issued, at the same address, within the previous year. Table 7 shows the number of reports, and the actions taken in response to these reports, by county.

There were 189 cases (21%) closed without an investigation being performed. A case may be closed without investigation if:

- the reported elevated result was on a capillary blood sample, and a subsequent venous confirmatory test found that the child's blood lead was not elevated;
- an abatement had recently been completed on the child's residence, as a result of either a previous elevated blood lead test on the same child, or an elevated blood lead test on a sibling or other child living at the same address; or
- the child had never lived at the address given on the laboratory report, and the local health department was not able to locate the family.

Of the 727 cases for which an inspection was required, inspections were completed on 452 (62%) within FY 2001. For some additional cases, particularly those reported late in the Fiscal Year, inspections may have been completed after June 30, 2001, and are not included in this total. Where investigations were completed, local health departments found lead paint hazards in 354 properties (78%). Lead hazard abatement had been completed on 99 of these properties (28%), as of June 30, 2001.

The number of inspections and abatements completed during FY 2001 is less than in previous Fiscal Years, reflecting the decrease in the number of children reported with elevated blood lead test results. The percentage of properties requiring inspection that were inspected, and the percentage of properties requiring abatement where abatement was completed by the end of the Fiscal Year, are essentially equivalent to the those reported in previous Fiscal Years. The percentage of inspections completed, 62%, is higher than the 60% completed within FY 2000 and lower than the 69% completed within FY 1999. Likewise, the percentage of abatements completed by the end of Fiscal Year 2001, 28%, is higher than the 22% completed within FY 2000, but lower than the 41% completed within FY 1999.

It is important to realize that these numbers reflect the status of cases, as of the end of the Fiscal Year on June 30, 2001. Given the time required to complete investigations and

(particularly) abatements, many cases reported in FY 2001 that have been completed in FY 2002 are not included in these numbers. Inspections and abatements completed after June 30 will be reflected in the report for FY 2002.

Likewise, there were many cases reported during FY 2000, and prior years, that were not completed until FY 2001, particularly with respect to abatements. When the data base is expanded to all cases where some action was completed during FY 2001, including those where the notice of a child with elevated blood lead was sent to the local health department prior to July 1, 2000, there were a total of 569 investigations and 383 abatements completed during the Fiscal Year (Table 8). For some counties, the number of abatements completed during the Fiscal Year exceeds the number of inspections completed. This is due to the completion of abatements for which the initial inspection was completed in prior Fiscal Years.

In comparing Tables 7 and 8, of the 383 abatements completed during FY 2001, 284 were the result of elevated blood lead tests done reported before July 1, 2000, while 99 were due to elevated tests reported in FY 2001. The length of time between the reporting of an elevated blood lead test result and the completion of the abatement of the lead hazards responsible for the elevation is due to a number of factors, which vary from case to case. These factors can include:

- difficulty in identifying and communicating with absentee landlords;
- lengthy enforcement actions required against recalcitrant property owners, including court action, when necessary;
- delays in contracting with and scheduling work by State-certified lead abatement contractors; and
- inability of some property owners to cover the cost of the required abatement, and/or to obtain financial assistance for these costs.

The delays in completion of abatements become clearer when looking at data from previous Fiscal Years. Composite data from the past six Fiscal Years shows that inspections have been completed on 88% of the properties for which inspections were required, and abatements completed on 74% of properties where lead hazards were identified, since the beginning of Fiscal Year 1996 (Table 9). The increase in the percentage of properties abated as the table looks back in time to cases of children identified in previous Fiscal Years shows the length of time required to complete abatements, and reflects the on-going efforts of local health departments to enforce outstanding lead abatement orders.

#### Analysis of performance of individual local health departments

Seventy-three of the 114 local health departments in the State (64%) received at least one notice of a child with elevated blood lead residing within its jurisdiction. However, most of the children with reported elevated blood lead test results resided within the jurisdiction of only 13 local health departments. These local health departments each received reports of 20 or more children with elevated blood lead in FY 2001, and were responsible for 79% of the reported cases (Table 9). They were also responsible for 86% of the completed investigations, 87% of all properties found to have lead hazards, and 87% of all completed hazard abatements. These departments were able to complete 66% of all required investigations within the Fiscal Year, as compared to 62% for all health departments in the State. Their percentage of abatements completed, 28%, was the same as for the State as a whole. Complete data on the status of all elevated blood lead reports issued in FY 2001, by local health departments, is in Appendix 2.

In comparing this data with prior Fiscal Years, what is notable is the significant improvement

in the performance of the Newark Department of Health and Human Services (DHHS), which has by far the most cases of children with elevated blood lead. The percentage of required inspections completed in Newark has increased from 23% in FY1999 to 47% in FY 2000 to 62% in FY 2001. At the same time, the percent of properties inspected where a lead hazard was identified increased from only 33% in FY 1999 to 88% in FY 2001. These improvements reflect the creation of additional lead inspector positions by the Newark DHSS and the fact that all of their inspection staff have become State-certified.

Otherwise, a comparison of the activities of individual health departments with prior years does not yield any clear trends. Some health departments complete a high percentage of the required inspections each year; a few complete only a low percentage of the inspections. For most local health departments, the percentage of inspections completed varies from year to year. For example, the Middlesex County Health Department, which completed inspections on 80% of the properties that required them in FY 2000 and 77% in FY 1999, was only able to complete 47% of the inspections required in FY 2001. There is also significant variation in the number of cases reported to each health department from year to year. For example, the number of children with elevated blood lead reported to the Bergen County Health Department decreased from 20 in FY 2000 to only two in FY 2001.

These variations in the percentage of inspections completed primarily reflect particular local conditions at the local health department, such as vacancies in inspector positions, delays in training and certification of newly hired inspectors. Also, most local health departments do not have enough cases each year to warrant a full-time lead inspector, so the inspection staff are also responsible for other types of inspections, which creates competing priorities for their time.

The DHSS contemplates taking a number of actions in FY 2002 to increase the timeliness of inspections and abatements. These include:

- Quarterly reports to local health departments of outstanding inspections and abatements, with close monitoring of local health departments with significant backlogs.
- Converting the reporting forms to an electronic format to reduce the time it takes to get reports to the local health departments and to make it easier to report back on actions taken.
- Identifying additional funds to support lead inspector positions in the local health departments with the most cases.

#### Notes on the data tables

The data in Tables 7, 8, 9 and 10, and in Appendix 2, reflect the results of environmental investigations as reported to the DHSS by local health departments. They are accurate to the extent that local health departments make complete and timely reports to the DHSS. It is possible that additional inspections and/or abatements may have been completed, but not reported to the DHSS.

**Table 7****ENVIRONMENTAL INVESTIGATION STATUS BY COUNTY – FY 2001**

<b>County</b>	<b>EBL Reports Sent</b>	<b>Invest. Required</b>	<b>Invest. Completed</b>	<b>Percent Invest. Complete</b>	<b>% Lead Hazards Found</b>	<b># Of Abatement Complete</b>	<b>% Abatement Complete</b>
Atlantic	10	8	6	75%	50%	0	0%
Bergen	24	13	5	38%	60%	0	0%
Burlington	3	3	3	100%	33%	1	100%
Camden	28	24	16	67%	63%	0	0%
Cape May	8	7	2	29%	100%	0	0%
Cumberland	26	24	18	75%	72%	2	15%
Essex	438	357	241	68%	87%	56	27%
Gloucester	6	6	6	100%	83%	0	0%
Hudson	45	37	19	51%	90%	7	41%
Hunterdon	3	2	0	0%	0%	0	
Mercer	37	17	6	35%	83%	1	20%
Middlesex	26	18	8	44%	50%	0	0%
Monmouth	16	13	4	31%	100%	0	0%
Morris	13	8	3	38%	67%	1	50%
Ocean	10	6	6	100%	50%	2	67%
Passaic	143	121	86	71%	71%	27	44%
Salem	5	2	2	100%	50%	0	0%
Somerset	5	2	2	100%	50%	0	0%
Sussex	2	2	0	0%		0	
Union	65	55	17	31%	47%	2	25%
Warren	3	2	2	100%	100%	0	0%
<b>TOTAL</b>	<b>916</b>	<b>727</b>	<b>452</b>	<b>62%</b>	<b>78%</b>	<b>99</b>	<b>28%</b>

**Table 8****ENVIRONMENTAL ACTIONS PERFORMED – FY 2001**

<b>County</b>	<b>Investigations Completed</b>	<b>Abatements Complete</b>
Atlantic	9	3
Bergen	7	3
Burlington	3	4
Camden	19	3
Cape May	3	0
Cumberland	21	10
Essex	273	162
Gloucester	5	1
Hudson	76	64
Hunterdon	0	0
Mercer	8	12
Middlesex	10	2
Monmouth	5	2
Morris	4	4
Ocean	6	2
Passaic	94	102
Salem	2	2
Somerset	3	2
Sussex	0	0
Union	20	5
Warren	1	0
<b>TOTAL</b>	<b>569</b>	<b>383</b>

**Table 9**

**CURRENT ENVIRONMENTAL INVESTIGATION STATUS BY FISCAL YEAR  
FY 1996 THROUGH FY 2001**

<b>Fiscal Year</b>	<b>EBL Reports Sent</b>	<b>Invest. Required</b>	<b>Invest. Complete</b>	<b>Percent Invest. Complete</b>	<b>% Lead Hazard Found</b>	<b># Lead Hazard Found</b>	<b># of Abatement Complete</b>	<b>% Abatement Complete</b>
FY 1996	2,724	1,870	1,755	94%	56%	976	911	93%
FY 1997	2,172	1,571	1,447	92%	55%	794	703	88%
FY 1998	2,018	1,503	1,412	94%	54%	767	632	82%
FY 1999	1,525	1,104	968	88%	66%	635	429	68%
FY 2000	1,150	884	708	80%	80%	563	256	46%
FY 2001	916	727	452	62%	78%	354	99	28%
<b>TOTAL</b>	<b>10,505</b>	<b>7,659</b>	<b>6,742</b>	<b>88%</b>	<b>61%</b>	<b>4,089</b>	<b>3,030</b>	<b>74%</b>

Note: Reflects the status of all cases as of June 30, 2001

**Table 10**

**ENVIRONMENTAL INVESTIGATION STATUS REPORT – FY 2001  
LOCAL HEALTH DEPARTMENTS WITH 20 OR MORE REPORTED  
ELEVATED BLOOD LEAD**

<b>Local Health Department</b>	<b>EBL Reports Sent</b>	<b>Invest. Required</b>	<b>Invest. Complete</b>	<b>Percent Complete</b>	<b># Lead Hazards Found</b>	<b>% Lead Hazards Found</b>	<b># of Abatements Complete</b>	<b>Percent Complete</b>
Newark	289	235	145	62%	127	88%	30	24%
Paterson	92	73	69	95%	52	75%	19	37%
Irvington	70	60	49	82%	43	88%	15	35%
Passaic City	41	39	13	33%	6	46%	5	83%
East Orange	39	34	30	88%	30	100%	6	20%
Camden County	28	24	16	67%	10	63%	0	0
Trenton	27	13	5	39%	4	80%	1	25%
Jersey City	25	21	11	52%	9	82%	2	22%
Elizabeth	24	21	12	57%	5	42%	1	20%
West Orange	23	15	14	93%	6	43%	5	83%
Plainfield	22	22	0	0	0		0	
Middlesex Co.	21	15	7	47%	4	57%	0	0
Cumberland Co.	20	18	16	89%	11	69%	2	18%
<b>TOTAL</b>	<b>721</b>	<b>590</b>	<b>387</b>	<b>66%</b>	<b>307</b>	<b>79%</b>	<b>86</b>	<b>28%</b>

## **Chapter Five**

### **Activities to Reduce Childhood Lead Poisoning in New Jersey**

#### **Accomplishments in FY 2001**

##### **A. Increasing Screening Rates**

DHSS is collaborating with the Division of Medical Assistance and Health Services (DMAHS) in the New Jersey Department of Human Services to increase lead screening rates within the Medicaid program. To facilitate the realization of this goal, a multi-faceted approach is being undertaken that targets the beneficiaries, providers, and other responsible agencies. Because of the complex nature of this public health concern, a collaborative relationship with advocacy groups, public agencies and provider groups is being developed. Integral to this relationship is the sharing of vital information between agencies and the exchange of best practices among organizations.

To increase awareness of the importance of blood lead screening, targeted outreach letters, health promotion flyers and lead stuffers were distributed by DMAHS to the parents of children in the lead screening-eligible age groups. Additional informational materials such as multi-language stuffers, lead stuffers and a lead web page are currently being developed. A phone survey of enrolled families was undertaken to identify barriers to lead screening from their perspective.

To help increase provider compliance with State lead screening regulations, pilot studies in Newark and Trenton were performed by the Division's contracted external quality review organization-- the Peer Review Organization of New Jersey (PRONJ). The studies were aimed at identifying physician lead screening practices and baseline screening rates as well as subsequent interventions undertaken to improve lead screening practices. The lessons learned from these pilot studies will be applied statewide.

Multiple provider-focused activities were implemented to heighten provider awareness on the need for universal lead screening. Professional publications, physician Internet reference lists and provider letters are some of the materials produced to date. A physician survey on lead screening, which was co-sponsored by the NJ Chapter of the American Academy of Pediatrics, has recently been completed and the report will be finalized in FY 2002.

DMAHS has also amended the Medicaid/NJFamilyCare Managed Care Contract to require HMOs to track individual provider screening rates and institute corrective actions as needed. The contract also has specific language addressing lead screening requirements and follow-up care. Inadequate access to laboratory sites was raised as a contributing factor to poor screening rates. Therefore, separate reimbursement for blood draws for lead screening was another provision added to the present contract. Lead screening is part of performance measurement for HMOs. The contract requires an 80% performance standard and has corresponding sanctions for under-performance.

DMAHS has also implemented initiatives to improve documentation and reporting of vital

child health services. Federal Medicaid rules require that a package of preventive health services, known as EPSDT (Early and Periodic Screening, Diagnosis, and Treatment) be offered to all enrolled children at regular intervals. Lead screening is one of the preventive services included in EPSDT.

A standardized EPSDT Worksheet for use by Medicaid Managed Care providers has been in use since January of this year. The worksheet helps to eliminate duplicate tools and enhances accurate reporting of services. Complementary to this strategy is the \$10 EPSDT incentive pass-through payment to providers that took effect on September 1, 2000 in fee-for-service and October 1, 2000 in managed care.

DHSS works collaboratively with its Physicians Lead Advisory Committee, the regional Maternal and Child Health Consortia, the University of Medicine and Dentistry of New Jersey, and the medical professional societies, to educate health care providers about their responsibilities under State law for lead screening and medical follow-up of elevated blood lead. It also assists the DMAHS in educating staff of contracted HMO's and their participating physicians about the requirements for screening and follow-up of children enrolled in Medicaid and NJ FamilyCare.

#### B. Surveillance

A new surveillance system, the Childhood Lead Poisoning Prevention Surveillance System (CLPPSS), was developed to expand the capabilities of the current surveillance system. New Jersey has maintained an electronic surveillance system since 1993, which has been used to collect elevated blood lead test results and to monitor environmental activities. The CLPPSS was designed to process all reported blood lead test results, not only elevated test results, and collect additional information on environmental activities, as required by Chapter XIII.

DHSS and DMAHS collaborated in matching records of children enrolled in Medicaid with the laboratory reports of blood lead tests of children during FY 2000 and 2001. This process enabled DMAHS to determine how many of the enrolled children had definitely received a blood lead test. However, because of differences in the way children are identified between the two data bases, exact matches could not be found for many of the children. Further follow-up through the contract HMO's will be required to determine if blood lead tests were performed on these children.

#### C. Case Management and Environmental Investigations

Local health departments are required by state law to investigate all reported cases of children with elevated blood lead. The standards for these investigations are set in Chapter XIII of the New Jersey State Sanitary Code, and include environmental investigation to determine the source of the lead hazard and order its remediation, home visits by public health nurses to educate the parents and assist them to obtain needed services, and coordination with primary care providers.

In FY 2001, DHSS provided \$2,035,846 in grant funding for lead poisoning activities to 13 local health departments. During the Fiscal Year, 81% of all New Jersey children requiring environmental investigation for elevated blood lead lived within the jurisdiction of these 13 health departments. In addition, Public Health Priority Funding is a state resource available to all local health departments to support lead poisoning activities.

DHSS and DMAHS staff collaborated in the development of a uniform joint protocol for the case management of children enrolled in Medicaid Managed Care.

#### **D. Public and Professional Education**

The DHSS provided \$65,229 to support the Newark Partnership for Lead Safe Children. This is a partnership a collaboration of the State and City health departments with a number of health care providers and community-based organizations in Newark to address lead poisoning. The Partnership is administered by the Gateway Maternal and Child Health Consortium, with significant participation by New Jersey Citizen Action. In addition to grant funds, the Partnership received a substantial donation from Episcopal Community Development Services, which was used to create “Leadie Eddie”, a van used for lead poisoning prevention education programs at child care centers and community sites in Newark.

A public education campaign, “Lead Free is Best for Me”, was developed for the city of Newark by Hill and Knowlton, a Washington, D.C.-based public relations firm, with local input from the Newark Department of Health and Human Services (DHHS), the Gateway Maternal and Child Health Consortium and the Newark Partnership for Lead Safe Children. DHSS provided support for this initiative through attendance at planning meetings.

#### **Federal Plan to Eliminate Childhood Lead Poisoning by 2010**

In February 2000, a federal task force published a document entitled, *Eliminating Childhood Lead Poisoning: A Federal Strategy Targeting Lead Paint Hazards*. The report presents a coordinated federal program to eliminate childhood lead poisoning in the United States within ten years. The recommendations within the report are based upon the premise that childhood lead poisoning is a completely preventable disease with the most common source of lead exposure for children being lead paint in older housing and the contaminated dust and soil that it generates.

The report contains four general recommendations: act before children are poisoned, identify and care for lead poisoned children, conduct research, and measure progress and refine lead poisoning prevention strategies. Acting before children are poisoned is a primary prevention recommendation. The focus of this recommendation is to reduce or eliminate exposure to lead paint hazards. The identification and care for lead-poisoned children is a secondary prevention recommendation. The strategies to accomplish this are the expansion of blood lead screening and follow-up services for at-risk children. These activities will be especially focused upon Medicaid-eligible children. Research is recommended to improve prevention strategies, promote ways to decrease the costs of lead hazard control, and better quantify the way in which children are exposed to lead. The final recommendation, to measure progress and refine lead poisoning prevention strategies, will be implemented through state-based blood lead surveillance systems and data linkage to monitor lead screening in the Medicaid population.

The DHSS Action Plan to reduce and ultimately eliminate childhood lead poisoning in New Jersey has been developed to be congruent with the recommendations of the Federal plan.

#### **Healthy New Jersey 2010**

Following the example set by the U.S. Department of Health and Human Services, the DHSS has set health objectives for the State for the next ten years. These objectives are in *Healthy*

*New Jersey 2010*, published in August 2001.

*Healthy New Jersey 2010* contains three objectives related to childhood lead poisoning. Two objectives are contained within the Healthy Mothers and Young Children section. The first objective is to increase the percentage of children tested for lead poisoning by two years of age to 85 percent. A baseline value of 33% was obtained from FY2000 data. The second objective is to reduce the percentage of children whose blood lead level is  $\geq 10$  ug/dL by 50 percent. A baseline value of 5% was obtained from the FY2000 data. While this objective will be achieved if the percentage of children with blood lead is  $\geq 10$  ug/dL is reduced to 2.5% by 2010, the ultimate objective of the DHSS is to have no children with blood lead above this level. The third objective, contained within the Environmental Health section, is to increase the percentage of residential lead evaluation/risk assessments conducted that meet performance standard to 90%.

## **Plans for SFY 2002**

The primary goals/objectives of DHSS in Fiscal Year 2002 include the following:

- a) Increase screening rates statewide of one and two-year olds for lead poisoning.
- b) Maintain and expand a statewide surveillance system for childhood lead poisoning, including electronic reporting by laboratories of all blood lead tests.
- c) Increase the percentage of children with elevated blood lead who receive proper follow-up care, including environmental investigations, case management, and medical treatment.
- d) Educate the public and health care professionals about lead screening and prevention activities.
- e) Strengthen existing and develop new collaborations to increase screening rates and to outreach to target populations.

### **A. Increasing Screening Rates**

DHSS will continue its collaboration with the Division of Medical Assistance and Health Services (DMAHS) in the New Jersey Department of Human Services to increase lead screening rates within the Medicaid program. National studies have shown that children eligible for Medicaid coverage are the children at highest risk for lead poisoning. DHSS and DMAHS staff will review the results of the FY 2001 initiatives described above and use these as the basis for additional activities in FY 2002. In particular, the pilot study in Newark will be completed, and the lessons learned from this study, as well as the one previously completed in Trenton, will be used to develop statewide interventions to increase physician compliance with the State and Medicaid requirements for lead screening. DMAHS has also indicated that it plans to closely monitor the contract HMO's to determine if they are meeting the 80% performance standard specified in the Contract and will be applying sanctions for under-performance.

DHSS has undertaken a joint pilot project with the Department of Human Services, including DMAHS, the child care licensure bureau in the Division of Youth and Family Services, and the Office of Child Care, to make the operators and staff of licensed child care centers and family child care homes aware of the dangers of lead poisoning, and to empower them to educate the parents who use these centers. Included in this initiative will be a pilot project to determine the feasibility of large scale screening of children through child care centers. The pilot will be done at large day care centers in a high-risk area with a large Medicaid population, and utilize local resources for performing the screenings. The Unified Child Care Agency and the Health Department in Paterson have been selected to participate in the initial pilot.

DHSS staff plan to develop and implement a pilot “pharmaceutical rep” model to visit primary care provider offices. The purpose of these visits is to encourage physicians and their staff to test children and to provide lead education for parents. There has been a preliminary meeting with volunteers from the National Graduate School and the Camden County Department of Health to develop a pilot project in Camden City.

Since the location of laboratory blood collection sites was one of the reasons cited for parents not following through with referrals for testing, the use of mobile labs and/or alternative blood lead collection sites (hospital labs, local health departments, WIC clinics) is being explored.

A field for recording of blood lead test data has been incorporated into the design for revision and expansion of the New Jersey State Immunization Information System. This will enable primary care providers to access the blood lead screening records for children in their care.

#### **B. Surveillance**

Further enhancements of the Childhood Lead Poisoning Prevention Surveillance System (CLPPSS) will become operational. The new capabilities of the CLPPSS will expand upon the activities performed by the current data system. Addresses within CLPPSS will be standardized and geo-coded to permit geo-spatial analyses. The geographically-coded blood lead test data will be linked to census data for analyses. This process will be used to produce a variety of maps. For example, maps may be created to show screening penetration and prevalence rates for areas surrounding each medical provider. Physicians will be provided with statistics that highlight screening rates and outcomes in the communities they serve.

DMAHS is developing an information system that will support the Medicaid Lead Surveillance Database (MLSD). This system will allow tracking of blood lead screenings and lead poisoning prevalence as well as case management interventions for each lead-burdened child. The information derived from these systems will be useful for targeting outreach and monitoring timely follow-up care. Quarterly lead matches will be performed between the Medicaid enrollment file and the DHSS Childhood Lead Poisoning Surveillance System and the results will be integral to the MLSD.

#### **C. Case Management and Environmental Investigations**

The improvements in the CLPPSS surveillance system described above will result in improvements in the conduct and evaluation of these follow-up services. In addition to being notified of children with blood lead levels of 20 ug/dL or greater, for whom an environmental investigation is required under Chapter XIII, local health departments will be notified of children with borderline persistent blood lead levels (currently defined as two or more test results between 15 and 19 ug/dL). Under the revised Chapter XIII adopted in 1999, local health departments will be providing the families of these children with preventive education, and a limited hazard assessment to identify lead hazards in order to prevent a further increase in the child’s blood lead level. CLPPSS will also provide the local health department with follow-up test results on children who previously had an elevated blood lead test result. More information will be collected with regard to each environmental investigation and abatement reported by local health departments. CLPPSS also will collect information on addresses other than the child’s current primary address that have been referred for investigation by local health departments.

These enhancements will enable the DHSS to more closely monitor the environmental activities of local health departments. On a quarterly basis, local health departments will be receiving reports showing all cases of children with an elevated blood lead for which an inspection has not yet been completed, or which are still pending abatement, according to the records in the CLPPSS. DHSS staff will be following up on these reports to ensure that local health departments are taking all the necessary steps to ensure that investigations are completed and abatements are done in a timely fashion. State law provides for sanctions against local health departments that do not properly enforce Chapter XIII.

#### D. Public and Professional Education

The primary responsibility for statewide lead poisoning prevention education in New Jersey has been assigned to the Interagency Task Force on the Prevention of Lead Poisoning, of which DHSS is a participant. These activities are planned and coordinated through the Task Force's Education Committee. The FY 2002 State Budget included a \$400,000 appropriation for education activities designed to expand public education on exposure risks and the importance of screening. These funds were added to the State budget as part of Acting Governor Donald DiFrancesco's "Kids Needs" initiative. The funds were allocated to the Interagency Task Force and will be administered by the Office for Prevention of Mental Retardation and Developmental Disabilities (OPMRDD) in the Department of Human Services. The funds will be used for a statewide public awareness campaign, and on-going community educational programs, including expanded use of the Lead Exploratorium, a mobile exhibit that travels to childcare centers and other sites to educate young children, parents and teachers on the risk of lead poisoning. Funds will also be used, in cooperation with the Department of Community Affairs, to educate landlords and residents about new regulations regarding lead in rental housing and interim controls to reduce exposure to lead.

DHSS staff spearheaded the planning for Childhood Lead Poisoning Prevention Week (October 27, 2001). The planning committee had representation from State agencies, local health departments, non-profit agencies and community-based organizations. Three hundred implementation packets were distributed to local health departments, Childcare Health Consultant Coordinators, numerous social service agencies and community-based organizations.

An educational module is being developed to incorporate with the video "Getting the Lead Out: Monica's Story". Johnson and Johnson developed this video in collaboration with the Governor's Council on the Prevention of Mental Retardation and Developmental Disabilities. About 500 videos were purchased by DHSS for distribution. The educational module and video will be offered to WIC clinics, child care centers, physician offices, and local health clinics for outreach and education of caregivers with children ages 1 through 5.

DHSS plans to conduct training sessions at least twice a year for LHD staff newly-assigned to lead poisoning prevention programs to provide a base knowledge of the issues and opportunities.

#### E. Strengthening Collaborations

DHSS will continue to be an active participant in the New Jersey Interagency Task Force on the Prevention of Lead Poisoning. Through the Task Force, DHSS staff from Family Health Services, Consumer and Environmental Health Services, and the Occupational Health Service will work with their colleagues in other State agencies and community-based organizations to develop and implement policies and projects to reduce childhood lead poisoning in New Jersey. In addition to the public education initiative described above, the interagency projects undertaken by the Task Force focus on the primary prevention of lead poisoning through reduction of lead hazards in the environment.

DHSS will continue to support and coordinate the activities of the New Jersey Physician Lead Advisory Committee (NJPLAC). Working groups from the membership will convene in 2001-2002 to review and make recommendations for the Lead Screening law regulations which expire December 2002, and to address additional lead education needs of primary care physicians.

DHSS staff have provided technical assistance to the city of Newark in the development of their Childhood Lead Poisoning Prevention Plan. A draft plan for public comment was issued in July 2001, and a final plan is expected before the end of 2001. Building on this model, DHSS plans to provide technical assistance to other municipalities with the highest incidence/risk of lead poisoning to develop local childhood lead poisoning prevention plans.

The Newark Partnership for Lead Safe Children consists of about 50 community organizations and agencies. Partnership activities are coordinated by a Steering Committee, which includes representation from Gateway Maternal and Child Health Consortium, New Jersey Citizen Action, the Association for Children of New Jersey, DHSS and the Newark DHHS. The Partnership activities are developed and carried out by three work committees: medical, housing and education. Currently, the major projects of the Partnership are:

- 1) "Leadie Eddie", a small van that goes to day care centers and community sites and provides lead poisoning prevention education programs, and lead screening at selected sites. This van was made possible by a donation from the Episcopal Diocese of Newark, through its Episcopal Community Development Corporation.
- 2) "Train the trainer" educational programs on lead poisoning prevention for the staff of community organizations.
- 3) Educational programs for property owners about lead poisoning prevention and the availability of public and private lead abatement funds.

DHSS staff participate in the South Jersey Lead Consortium. The Consortium is planning a Lead Poisoning Prevention Workshop in the Fall of 2001. Sponsoring agencies also include the Garden Area Health Education Center and the Interagency Task Force on Lead Poisoning Prevention. The workshop focuses on ways to improve lead poisoning prevention by increasing awareness of community resources, lead screening programs, and new methods of treating lead poisoning with nutrition.

## **Appendix 1**

### **NJDHSS Childhood Lead Poisoning Surveillance System**

All clinical laboratories licensed by the DHSS are required to report all blood lead tests. This universal reporting was authorized by Public Law 1995, chapter 328 (N.J.S.A. 26:2-137.5.b). The regulations establishing the requirement for reporting of all blood lead tests were adopted on April 6, 1998 (30 NJR 1310(c)), and became effective on July 1, 1999. Prior to July 1999, reporting was required only of elevated test results.

During FY 2001, laboratories were able to report blood lead test results to the DHSS on paper forms or electronically. Programming work is underway to enable laboratories to transmit files of blood lead tests results via secure Internet file transfer.

All reported blood lead tests are entered into a computer database. This database records the child's name, address, birth date, and blood lead level, as well as the medical provider and laboratory performing the testing. These data are used to track childhood lead poisoning in New Jersey, both geographically and over time, and to produce reports of this information (such as this Annual Report). The database contains files of more than 800,000 blood lead test results on more than 650,000 children, dating back to the mid-1970's. Most of the records from before July 1999 are of elevated test results.

Blood lead tests results are reviewed to identify children with elevated blood lead ( $\geq 20$  ug/dL). The DHSS then notifies local health departments of children with elevated blood lead reported in their jurisdictions. This is currently done through issuing a Lead Poisoning Environmental Intervention Report. This report is issued whenever the DHSS receives a report of an elevated blood lead test on a child, unless a report form has already been issued on the same child, at the same address, within the previous 12 months. More than one form may be issued on the same child if the address shown on the laboratory report is different from that on a previous report. This is done to ensure that the local health department is aware of any changes of address made by the child and their family, and to ensure that all places where the child resides are investigated for lead hazards.

The local health department is required to report the closure or completion of an investigation and/or abatement to the DHSS, using copies of these forms. The DHSS Child and Adolescent Health Program maintains a database for tracking the status and results of lead poisoning investigations. The database contains more than 27,000 records on environmental actions taken by local health departments since the mid-1980's. When the local health department reports that an inspection has been completed and the lead hazards abated, or the case otherwise closed, the DHSS will record the case as closed. Any case of lead poisoning in a child for which the DHSS has not received a completed report from the local health department is considered to be "open". Reports are sent to local health departments to remind them of cases still open.

## **Creation of Report Tables**

### **Screening for Lead Poisoning**

An analysis database was created based upon all blood lead test results that were reported to the New Jersey Department of Health and Senior Services. Blood lead test results were reported in either electronic or hardcopy format. All hardcopy reports, about 77,000, were entered into a temporary database and then combined with the electronically reported results into an analysis database. Each record contained complete information about the child and blood test result. The child's county of residence was assigned based upon mailing address zip code. If the child's address was not reported, then the zip code of the medical provider was used to assign county of residence. For those zip codes that encompassed more than one county, the zip code was arbitrarily assigned to one county. If both child and medical provider zip codes were missing or were not valid NJ zip codes, then the county of residence was assigned as unknown. Age was calculated based upon the date of the test. For those records missing date of birth, age was assigned as unknown. The tables indicating the number of children tested for lead poisoning were created based upon the first reported result for a child, which was selected by using an identifier based upon the child's full name and date of birth. It was not possible to specifically identify the number of screening tests because the reason for testing was not reported.

### **Blood Lead Test Results**

All records were selected from the database where the date of analysis was within FY 2001. Each record contained a complete set of information, that is, the child's name, date of birth, address, and blood lead test result. An analysis database was created by selecting the first result for a child using a unique identifier that was based upon the child's full name and date of birth. The result was assigned to a blood level group of either less than 10 ug/dL, 10-14 ug/dL, 15-19 ug/dL, 20-44 ug/dL, or 45 ug/dL or greater, based upon the reported value of the blood lead test. If a value was reported as "<" (less than) some value, for analysis purposes the value was assigned as the number reported, without the "<" sign. For example, a result reported as "<3" was assigned a value of "3".

### **Environmental Activities**

All records were selected from the environmental portion of the database where an Environmental Intervention Report is maintained. All environmental activities (investigation, abatement, and closure) contained within this report, actually occurred during FY 2001. That is, the date for any activity that occurred after June 30, 2001 was set to missing and, therefore, not counted within this report. The status of each investigation was assigned based upon a combination of investigation, abatement completed, and case closed dates. The modified information within this analysis database was used to create the majority of the environmental activities table. A separate analysis database was created to produce the table of all environmental activity that occurred during FY 2001, regardless of when the initiating blood lead test result was performed (Table 8). For this table, all records that contained either an investigation, abatement completed, or case closed date within FY 2001 were selected. The table was created by simply counting the number of investigations and abatements completed.

**Appendix 2**

**ENVIRONMENTAL INVESTIGATION STATUS  
BY LOCAL HEALTH DEPARTMENT JURISDICTION  
FY2001**

**ENVIRONMENTAL INVESTIGATION STATUS BY LOCAL HEALTH DEPARTMENT - FY 2001**

<b>LOCAL HEALTH DEPARTMENT</b>	<b>EBL REPORTS SENT</b>	<b>INVEST. NOT REQUIRED</b>	<b>INVEST. REQUIRED</b>	<b>INVEST. PENDING</b>	<b>INVEST. COMPLETED</b>	<b>% INVEST. COMPLETED</b>	<b>LEAD HAZARDS FOUND</b>	<b>% LEAD HAZARD FOUND</b>	<b>ABATEMENT PENDING</b>	<b>ABATEMENT COMPLETED</b>	<b>% ABATEMENT COMPLETED</b>
<b>ATLANTIC COUNTY</b>											
ATLANTIC COUNTY HEALTH DEPARTMENT	8	2	6	2	4	67%	2	50%	2	0	0%
ATLANTIC CITY HEALTH DEPARTMENT	2	0	2	0	2	100%	1	50%	1	0	0%
<b>BERGEN COUNTY</b>											
BERGEN COUNTY DEPARTMENT OF HEALTH SERVICES	2	0	2	2	0	0%	0	-	0	0	-
BERGENFIELD HEALTH DEPARTMENT	3	0	3	3	0	0%	0	-	0	0	-
ENGLEWOOD HEALTH DEPARTMENT	2	1	1	0	1	100%	0	0%	0	0	-
FAIR LAWN HEALTH DEPARTMENT	1	0	1	1	0	0%	0	-	0	0	-
HACKENSACK HEALTH DEPARTMENT	4	3	1	0	1	100%	0	0%	0	0	-
PARAMUS BOARD OF HEALTH	3	1	2	1	1	50%	1	100%	1	0	0%
MID-BERGEN REGIONAL HEALTH COMMISSION	8	6	2	1	1	50%	1	100%	1	0	0%
N.W. BERGEN REGIONAL HEALTH COMMISSION	1	0	1	0	1	100%	1	100%	1	0	0%
<b>BURLINGTON COUNTY</b>											
BURLINGTON COUNTY HEALTH DEPARTMENT	3	0	3	0	3	100%	1	33%	0	1	100%
<b>CAMDEN COUNTY</b>											
CAMDEN COUNTY DIVISION OF HEALTH	28	4	24	8	16	67%	10	63%	10	0	0%
<b>CAPE MAY</b>											
CAPE MAY COUNTY HEALTH DEPARTMENT	8	1	7	5	2	29%	2	100%	2	0	0%
<b>CUMBERLAND COUNTY</b>											
CUMBERLAND COUNTY HEALTH DEPARTMENT	20	2	18	2	16	89%	11	69%	9	2	18%
CITY OF VINELAND DEPARTMENT OF HEALTH	6	0	6	4	2	33%	2	100%	2	0	0%
<b>ESSEX COUNTY</b>											
ESSEX COUNTY HEALTH DEPARTMENT	1	0	1	1	0	0%	0	-	0	0	-
BELLVILLE HEALTH DEPARTMENT	1	0	1	1	0	0%	0	-	0	0	-
BLOOMFIELD DEPARTMENT OF HEALTH	4	0	4	4	0	0%	0	-	0	0	-
EAST ORANGE HEALTH DEPARTMENT	39	5	34	4	30	88%	30	100%	24	6	20%
IRVINGTON DEPARTMENT OF HEALTH & WELFARE	70	10	60	11	49	82%	43	88%	28	15	35%
LIVINGSTON DEPARTMENT OF HEALTH	1	1	0	0	0	-	0	-	0	0	-
MAPLEWOOD HEALTH DEPARTMENT	1	0	1	0	1	100%	1	100%	1	0	0%
MILLBURN TOWNSHIP HEALTH DEPARTMENT	1	1	0	0	0	-	0	-	0	0	-
MONTCLAIR HEALTH DEPARTMENT	10	2	8	6	2	25%	2	100%	2	0	0%
NEWARK DEPARTMENT OF HEALTH	289	54	235	90	145	62%	127	88%	97	30	24%
WEST ORANGE HEALTH DEPARTMENT	23	8	15	1	14	93%	6	43%	1	5	83%
<b>GLOUCESTER COUNTY</b>											
GLOUCESTER COUNTY DEPARTMENT OF HEALTH	6	0	6	0	6	100%	5	83%	5	0	0%
<b>HUDSON COUNTY</b>											
BAYONNE DEPARTMENT OF HEALTH	1	0	1	0	1	100%	1	100%	0	1	100%
HOBOKEN HEALTH DEPARTMENT	2	1	1	1	0	0%	0	-	0	0	-
JERSEY CITY DIVISION OF HEALTH	25	4	21	10	11	52%	9	82%	7	2	22%
KEARNY DEPARTMENT OF HEALTH	1	0	1	1	0	0%	0	-	0	0	-
NORTH BERGEN HEALTH DEPARTMENT	10	3	7	3	4	57%	4	100%	0	4	100%
WEST NEW YORK DEPARTMENT OF HEALTH	6	0	6	3	3	50%	3	100%	3	0	0%
<b>HUNTERDON COUNTY</b>											
HUNTERDON COUNTY DEPARTMENT OF HEALTH	3	1	2	2	0	0%	0	-	0	0	-
<b>MERCER COUNTY</b>											
HAMILTON TOWNSHIP DIVISION OF HEALTH	6	5	1	1	0	0	0	-	0	0	-
LAWRENCE TOWNSHIP HEALTH DEPARTMENT	1	0	1	0	1	100%	1	100%	1	0	0%
PRINCETON REGIONAL HEALTH COMMISSION	3	1	2	2	0	0	0	-	0	0	-
CITY OF TRENTON DEPT. OF HEALTH & HUMAN SERVICES	27	14	13	8	5	39%	4	80%	3	1	25%

LOCAL HEALTH DEPARTMENT	EBL REPORTS SENT	INVEST. NOT REQUIRED	INVEST. REQUIRED	INVEST. PENDING	INVEST. COMPLETED	% INVEST. COMPLETED	LEAD HAZARDS FOUND	% LEAD HAZARD FOUND	ABATEMENT PENDING	ABATEMENT COMPLETED	% ABATEMENT COMPLETED
<b>MIDDLESEX COUNTY</b>											
MIDDLESEX COUNTY PUBLIC HEALTH DEPARTMENT	21	6	15	8	7	47%	4	57%	4	0	0%
MIDDLE-BROOK REGIONAL HEALTH COMMISSION	1	0	1	0	1	100%	1	100%	1	0	0%
PISCATAWAY TOWNSHIP HEALTH DEPARTMENT	1	0	1	0	1	100%	0	0%	0	0	-
EDISON DEPARTMENT OF HEALTH & HUMAN SERVICES	1	0	1	1	0	0%	0	-	0	0	-
SOUTH BRUNSWICK HEALTH DEPARTMENT	1	0	1	1	0	0%	0	-	0	0	-
WOODBIDGE TOWNSHIP DEPT. OF HEALTH & HUMAN SERV	2	2	0	0	0	-	0	-	0	0	-
<b>MONMOUTH COUNTY</b>											
MONMOUTH COUNTY HEALTH DEPARTMENT	8	1	7	5	2	29%	2	100%	2	0	0%
MONMOUTH COUNTY REGIONAL HEALTH COMMISSION NO. 1	1	1	0	0	0	-	0	-	0	0	-
FREEHOLD AREA HEALTH DEPARTMENT	1	0	1	1	0	0%	0	-	0	0	-
LONG BRANCH DEPARTMENT OF HEALTH	3	0	3	2	1	33%	1	100%	1	0	0%
MATAWAN REGIONAL DEPARTMENT OF HEALTH	1	1	0	0	0	-	0	-	0	0	-
MIDDLETOWN TOWNSHIP HEALTH DEPARTMENT	1	0	1	1	0	0%	0	-	0	0	-
RED BANK HEALTH DEPARTMENT	1	0	1	0	1	100%	1	100%	1	0	0%
<b>MORRIS COUNTY</b>											
DOVER HEALTH DEPARTMENT	8	3	5	3	2	40%	2	100%	1	1	50%
MADISON BORO BOARD OF HEALTH	1	1	0	0	0	-	0	-	0	0	-
MORRISTOWN DIVISION OF HEALTH	3	0	3	2	1	33%	0	0%	0	0	-
RANDOLPH TOWNSHIP BOARD OF HEALTH	1	1	0	0	0	-	0	-	0	0	-
<b>OCEAN COUNTY</b>											
OCEAN COUNTY HEALTH DEPARTMENT	10	4	6	0	6	100%	3	50%	1	2	67%
CLIFTON BOARD OF HEALTH	7	1	6	2	4	67%	3	75%	0	3	100%
<b>PASSAIC COUNTY</b>											
PASSAIC CITY HEALTH DEPARTMENT	41	2	39	26	13	33%	6	46%	1	5	83%
PATERSON DIVISION OF HEALTH	92	19	73	4	69	95%	52	75%	33	19	37%
RINGWOOD HEALTH DEPARTMENT	1	0	1	1	0	0%	0	-	0	0	-
SALEM COUNTY DEPARTMENT OF HEALTH	5	3	2	0	2	100%	1	50%	1	0	0%
<b>SOMERSET COUNTY</b>											
SOMERSET COUNTY HEALTH DEPARTMENT	2	2	0	0	0	-	0	-	0	0	-
FRANKLIN TOWNSHIP HEALTH DEPARTMENT	2	1	1	0	1	100%	0	0%	0	0	-
SPARTA HEALTH DEPARTMENT	1	0	1	1	0	0%	0	-	0	0	-
VERNON TOWNSHIP BOARD OF HEALTH	1	0	1	1	0	0%	0	-	0	0	-
<b>UNION COUNTY</b>											
ELIZABETH DEPARTMENT OF HEALTH & HUMAN SERVICES	24	3	21	9	12	57%	5	42%	4	1	20%
LINDEN BOARD OF HEALTH	5	1	4	4	0	0%	0	-	0	0	-
CITY OF PLAINFIELD HEALTH DEPARTMENT	22	0	22	22	0	0%	0	-	0	0	-
RAHWAY HEALTH DEPARTMENT	2	0	2	1	1	50%	1	100%	0	1	100%
SUMMIT HEALTH DEPARTMENT	8	5	3	0	3	100%	1	33%	1	0	0%
TOWNSHIP OF UNION DEPARTMENT OF HEALTH	2	1	1	0	1	100%	1	100%	1	0	0%
WESTFIELD REGIONAL HEALTH DEPARTMENT	2	0	2	2	0	0%	0	-	0	0	-
<b>WARREN COUNTY</b>											
WARREN COUNTY HEALTH DEPARTMENT	3	1	2	0	2	100%	2	100%	2	0	0%
<b>Statewide Totals</b>	<b>916</b>	<b>189</b>	<b>727</b>	<b>275</b>	<b>452</b>	<b>62%</b>	<b>354</b>	<b>78%</b>	<b>255</b>	<b>99</b>	<b>28%</b>